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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/368,429 08/05/99 YAMAGUCHI

F 0950-0110P

EXAMINER

002292 IM71/0706
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH VA 22040-0747

REFERENCE	
ART UNIT	PAPER NUMBER

1771
DATE MAILED:

07/06/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/368,429

Applicant(s)

YAMAGUCHI ET AL.

Examiner

Jenna-Leigh Befumo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 6-9 and 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 10, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1 – 5, 10, 12 and 13 in Paper No. 7 is acknowledged. The traversal is on the grounds that it would not be an undue burden to examine the three inventions together. This is not found persuasive because undue burden was shown in the previous Office Action, Paper No. 5. The three inventions were shown to have separate classifications and separate searches. Thus, the restriction requirement is appropriate.

Additionally, it is noted that the claims cannot be rejoined under in re Ochiai, since this case law applies to a product and methods making said product, not a product and methods of using said product.

The requirement is still deemed proper and is therefore made FINAL.

Specification

2. The disclosure is objected to because of the following informalities: Method AARCC-138, on page 16, line 1, is an unknown test method.

Appropriate correction is required.

3. The disclosure is objected to because of the following informalities: the equation, on page 14, for the stainproof ratio is not mathematically proper. There is a subtraction sign after the ΔE_{Tn} in the numerator, however there is no numbers or variables following the subtraction sign. It is not clear what the subtraction sign means.

Appropriate correction is required.

Claim Objections

4. Claim 10 is objected to because of the following informalities: As written, claim 10 includes the limitation of non-elected claims 6 and 9. Thus, claim 10 is objected to since claim 6 contains, in line 3, the term "fluorine-conraining" and claim 9 contains, in line 9, the term "consistoing" which are both misspelled. Appropriate correction is required.
5. Claim 10 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 1 – 5, 10, 12, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
8. Claims 1 – 4, 12 and 13 are indefinite because they fail to set forth the composition or structure of the stainproof treated carpet and only claim properties of the stainproof treated carpet. Claims that merely set forth physical characteristics desired in an article, and not setting forth specific compositions which would meet such characteristics are invalid as vague, indefinite, and functional since they cover any conceivable combination of ingredients either presently existing or which might be discovered in the future. Ex parte Slob (PO BdApp) 157 USPQ 172. Thus, claims 1 – 4, 12, and 13 provide no examinable limitations and are not further examined.

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9. The equation "stainproof ration (%) = $100 \times (\Delta E_N - \Delta E_{Tn}) / \Delta E_N$ " is indefinite. It is unclear what the second subtraction sign in the numerator refers to. Is something else suppose to be subtracted? Claims 2 – 5, 10, 12, and 13 are rejected due to their dependence on claim 1.

10. Claim 3 is indefinite. Is Applicant limiting the claims to claim a stainproof treated carpet comprising a specific dirt composition? Or is Applicant claiming that the test method uses this specific dirt composition on stainproof treated carpets? If the dirt composition is in reference to the test method then the claim has no patentable weight at this time since the testing limitations provide no further structural limitations to the stainproof treated carpet. Further, wouldn't this contradict claim 1, since it provides for the test method (AATCC-138)?

11. Claim 12 is indefinite. Is Applicant limiting the claims to claim only blue stainproof treated carpets? Or is Applicant claiming that the test method uses blue carpets? If the color is in reference to the test method then the claim has no patentable weight at this time since the testing limitations provide no further structural limitations to the stainproof treated carpet.

12. Claim 12 recites the limitation "L" in line 2. There is insufficient antecedent basis for this limitation in the claim.

13. Claim 12 recites the limitation "a" in line 2. There is insufficient antecedent basis for this limitation in the claim.

14. Claim 12 recites the limitation "b" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 5910175A (Abstract) or Kato et al. (5,349,003) in view of Pacifici et al. (5,843,328).

JP 5910175A discloses a composition that imparts water and oil repellent properties to fibers comprising a fluoroalkyl-containing compound and a triazine ring-containing compound (abstract). JP 5910175A teaches that the composition can be applied to fibers (abstract).

Kato et al. discloses an aqueous dispersion that comprises a fluorine-containing polymer and at least one resin selected from the group consisting of a water soluble resin and a water dispersible resin (column 3, lines 1 – 8). The water-soluble resins include N-methylolmelamine resins and alkylated N-methylolmelamine resins (column 7, lines 21 – 30). Kato et al. specifically uses hexamethylolmelamine as the water-soluble resin in the examples shown in Table 7. Kato et al. disclose that the fluorochemicals are superior in chemical resistance and solvent resistance, and are used to impart water repellency (column 1, lines 28 – 42). Also Kato et al. teach the composition can be used as coating compounds and fiber-treating compounds (column 1, lines 24 – 27).

Both JP 5910175A and Kato et al. fail to teach using the fluorochemical on carpets, although they teach applying the fluorochemicals to fibers. Pacifici et al. is drawn to finishes used to protect nylon carpet fibers. Pacifici et al. teach that carpets, commonly made of nylon yarns, are finished with stainblockers and fluorocarbon soil repellents (column 1, lines 11 – 15). Pacifici et al. also disclose that the fluorocarbon imparts water and oil repellency on the carpet fibers (column 1, lines 16 – 17). Thus, it would be obvious to one having ordinary skill in the art

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to apply fluorocarbon chemicals that impart water and oil repellency to the fibers of a carpet to improve the stain resistance and dirt releasability of the carpet fibers. Therefore, claim 4 is rejected.

17. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 5910175A in view of Pacifici et al. as applied to claim 4 above, and further in view of Kubo et al. (5,883,175).

The features of JP 5910175A have been set forth above. JP 5910175A teach that the fluoroalkyl containing compound is a copolymer with a vinyl compound such as (meth)acrylic acid (abstract). JP 5910175A fails to teach using a fluoroalkyl group-containing maleic acid diester.

Kubo et al. is drawn to fluoroalkyl stainproofing compositions. Kubo et al. teaches that the fluoroalkyl containing component can be a polyfluoroalkyl group-containing (meth)acrylate or a polyfluoroalkyl group-containing maleate (column 2, lines 28 – 55). Thus, it would be obvious to one having ordinary skill in the art to substitute a polyfluoroalkyl group-containing maleate for the polyfluoroalkyl group-containing (meth)acrylate in the JP 5910175A composition to produce a less toxic fluorocarbon chemical with an equivalent fluoroalkyl group-containing compound, thereby improving the safety of those who come in contact with the chemicals and saving money on chemical disposal. Therefore claim 5 is rejected.

18. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amimoto et al. (5,143,991) in view of Kato et al. and Pacifici et al.

Amimoto et al. disclose a copolymer desoiling agent comprising a) a fluoroalkyl group-containing (meth)acrylate, b) a polyalkylene glycol (meth)acrylate c) a (meth)acrylate having a hydroxyl group and d) at least one selected from the group consisting of alkyl (meth)acrylates

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and butadiene (abstract). The composition imparts water and oil repellency to articles such as fibers and fabrics (column 1, lines 28 – 45). The compounds Amimoto et al. teach for component b all include acrylate or methacrylate with a polyalkylene glycol, including components with ethylene as the alkylene component (column 2, lines 55 – 65). Thus, the polyoxyethylene chain, claimed by Applicant, is a type of polyalkylene glycol compound. Additionally, Amimoto et al. teach that component c includes glycerol (meth)acrylate compounds. Therefore, the Amimoto et al. composition includes at least one acrylate or methacrylate with a polyoxyethylene chain and at least one reactive monomer. Amimoto et al. fails to teach including a triazine ring-containing component.

The features of Kato et al. have been set forth above. Kato et al. disclose using as a water-soluble resin N-methylolmelamine resins, which are triazine ring-containing compounds. Kato et al. teach that adding the water-soluble resin to the fluorochemical helps improve the adhesion of the chemical to a substrate and processibility (column 1, lines 43 – 60). Thus, it would be obvious to one having ordinary skill in the art to add N-methylolmelamine resins to the Amimoto et al. composition to improve the processibility and to improve the adhesion of the chemical to the substrate.

Even though both Amimoto et al. and Kato et al. teach that the composition can be added to fibers and will impart chemical repellency, the both fail to teach adding the fluorochemical composition to a carpet. The features of Pacific et al. have been set forth above. Pacifici et al. teach that it is known to add fluorochemicals to carpets to impart repellency and soil releasability. Thus, it would have been obvious to one having ordinary skill in the art to apply fluorocarbon

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chemicals that impart water and oil repellency to the fibers of a carpet to improve the stain resistance and dirt releasability of the carpet fibers. Therefore, claims 4 and 10 are rejected.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Befumo whose telephone number is (703) 605-1170. The examiner can normally be reached on Monday - Friday (8:00am - 4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Jenna-Leigh Befumo
July 2, 2001


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